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EXAMINER	
YIGDALL, MICHAEL J	

ART UNIT	PAPER NUMBER
2192	

NOTIFICATION DATE	DELIVERY MODE
11/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/713,649	SHAPIRO, MICHAEL W.	
	Examiner	Art Unit	
	Michael J. Yigdall	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 3, 2008 has been entered. Claims 1-23 are pending.

Response to Arguments

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection set forth below. Applicant's amendments to the claims necessitated the new ground(s) of rejection.

Nonetheless, the examiner does not agree with Applicant's assertion that the Edwards reference "fails to disclose that the API provided for the IR transformation module is used to fulfill instrumentation requests" (remarks, page 9). Specifically, the examiner notes that Edwards clearly describes that the API provides calls for uses such as "inserting probe code for instrumentation purposes" (see column 9, lines 28-32).

Claim Rejections under 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,662,356 to Edwards et al. (already of record, "Edwards") in view of U.S. Pub. No. 2004/0205720 to Hundt (now made of record, "Hundt").

With respect to claim 1 (currently amended), Edwards teaches a method of translating data, comprising:

obtaining a value of an implementation data structure from an instrumented program, wherein the implementation data structure is internal to the instrumented program (see, for example, column 7, lines 10-21, "... maintained in data structures ...," the annotations are stored in implementation data structures which are obtained for the procedures during the transformation process and output by the output translator);

accessing a translator associated with the instrumented program, wherein the translator comprises a plurality of transformations (see, for example, FIG. 2A, item 210, "Input Translation (Reader)," and associated text); and

translating the value of the implementation data structure using the translator (see, for example, FIG. 2A, item 210, "Input Translation (Reader)," and associated text) to obtain translated data, wherein the translating comprises applying to at least one of the plurality of transformations to convert a representation of the implementation data structure into an interface data structure (see, for example, column 8, lines 36-50, and FIG. 2A, items 220, 240 and 203, "IR," "Output Translation" and "EXE," where the intermediate representation is converted, and

associated text), wherein the interface data structure corresponds to an interface offered by the instrumented program;

wherein the translated data is configured to satisfy an instrumentation request from a user (see, for example, column 9, lines 25-36).

Edwards teaches performing a function of a debugging program (see, for example, column 12, TABLE 2, which shows a "DbgPrint()" function that returns debugging information), but does not explicitly describe that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program.

However, in an analogous art, Hundt teaches an instrumentation request that is a request to perform a function of a debugging program (see, for example, step 112 in FIG. 1 and paragraph [0034]). Hundt describes that combining an instrumentor with a debugger enhances the functionality and efficiency of both (see, for example, paragraph [0011]).

One of ordinary skill in the art could, with predictable results, implement the teachings of Edwards such that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program. As Hundt suggests, such an implementation would provide enhanced functionality and efficiency. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Edwards such that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program.

With respect to claim 2 (currently amended), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches:

executing the tracing program to enable a probe in the instrumented program based on the instrumentation request (see, for example, column 9, lines 25-37, "… inserting probe code …");

triggering the probe in the instrumented program (see, for example, column 9, lines 25-37, "… inserting probe code …"); and

transferring translated data from the translator to an execution framework, wherein the execution framework comprises a tracing framework (see, for example, FIG. 2B and associated text).

With respect to claim 3 (currently amended), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches:

executing the debugging program in the instrumented program in response to an instrumentation request (see, for example, TABLE 2, "returns debugging information"); and

transferring translated data to an execution framework in response to the instrumentation request, wherein the execution framework comprises a debugger (see, for example, column 7, lines 29-44).

With respect to claim 4 (original), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches that the translator is defined using a high-level programming language (see, for example, column 1, lines 35-49).

With respect to claim 5 (original), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches that the translator is updated independently of the execution framework (see, for example, column 7, lines 59-66).

With respect to claim 6 (original), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches:

delivering the translator using an encoded delivery (see, for example, FIG. 2A, item 210, and related text).

With respect to claim 7 (original), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches:

delivering the translator using a compiled delivery (see, for example, FIG. 2A, item 210, and related text).

With respect to claim 8 (original), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches:

selecting the translator using an instrumentation request (see, for example, FIG. 2A, item 210, and related text).

With respect to claim 9 (original), the rejection of claim 1 is incorporated, and Edwards in view of Hundt further teaches:

selecting the translator using knowledge of a function argument type of the instrumented program (see, for example, FIG. 2A, item 210, and related text).

With respect to claim 10 (currently amended), Edwards teaches a system (see, for example, FIG. 1, and related text) for translating data, comprising:

a memory (see, for example, FIG. 1, item 22, "System Memory," and associated text) configured to:

store an instrumented program comprising at least one implementation data structure, wherein the implementation data structure is internal to the instrumented program (see, for example, column 7, lines 10-21);

store a translator comprising a plurality of transformations (see, for example, FIG. 2A, item 210, and related text);

a processor (see, for example, FIG. 1, item 21, and associated text) configured to:

execute a compiler arranged to compile the plurality of transformations into the translator (see, for example, column 17, "origAddr(component)"); and

execute an execution framework configured to use the translator to convert at least one implementation data structure into an interface data structure to obtain translated data, wherein the interface data structure corresponds to an interface offered by the instrumented program, and wherein the translated data is configured to satisfy the instrumentation request from a user (see, for example, column 7, lines 10-21 and column 9, lines 25-36).

Edwards teaches performing a function of a debugging program (see, for example, column 12, TABLE 2, which shows a "DbgPrint()" function that returns debugging information), but does not explicitly describe that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program.

However, in an analogous art, Hundt teaches an instrumentation request that is a request to perform a function of a debugging program (see, for example, step 112 in FIG. 1 and paragraph [0034]). Hundt describes that combining an instrumentor with a debugger enhances the functionality and efficiency of both (see, for example, paragraph [0011]).

One of ordinary skill in the art could, with predictable results, implement the teachings of Edwards such that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program. As Hundt suggests, such an implementation would provide enhanced functionality and efficiency. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Edwards such that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program.

With respect to claim 11 (previously presented), the rejection of claim 10 is incorporated, and Edwards in view of Hundt further teaches that the instrumentation request explicitly translates the value of the at least one implementation data structure into the translated data (see, for example, FIG. 2A, items 210, 220 and 240, and related text).

With respect to claim 12 (original), the rejection of claim 10 is incorporated, and Edwards in view of Hundt further teaches that a function call implicitly triggers the translating the value of the at least one implementation data structure into the translated data (see, for example, FIG. 2A, items 210, 220 and 240, and related text).

With respect to claim 13 (original), the rejection of claim 10 is incorporated, and Edwards in view of Hundt further teaches that the translator is defined using a high-level programming language (see, for example, column 1, lines 35-49).

With respect to claim 14 (original), the rejection of claim 10 is incorporated, and Edwards in view of Hundt further teaches that the translator is updated independently of the execution framework (see, for example, column 7, lines 59-66).

With respect to claim 15 (original), the rejection of claim 10 is incorporated, and Edwards in view of Hundt further teaches that the translator is delivered using at least one selected from the group consisting of encoded delivery and compiled delivery (see, for example, FIG. 2A, item 210, and related text).

With respect to claim 16 (original), the rejection of claim 10 is incorporated, and Edwards in view of Hundt further teaches that the execution framework comprises at least one selected from the group consisting of a tracing framework and a debugger (see, for example, FIG. 2A, item 203, "EXE," and related text).

With respect to claim 17 (currently amended), Edwards teaches a computer system for translating data, comprising:

a processor (see, for example, FIG. 1, item 21, and related text);

a memory (see, for example, FIG. 1, item 22, and related text);

a storage device (see, for example, FIG. 1, item 32, and related text); and

software instructions stored in the memory for enabling the computer system to:

obtain a value of an implementation data structure from an instrumented program, wherein the implementation data structure is internal to the instrumented program (see, for example, column 7, lines 46-59);

access a translator associated with the instrumented program, wherein the translator comprises a plurality of transformations (see for example FIG. 2A, item 210, "input translation," and related text); and

translate the value of the implementation data structure using the translator to obtain translated data, wherein the translating comprises applying at least one of the plurality of transformations to convert a representation of the implementation data structure into an interface data structure, wherein the interface data structure corresponds to an interface offered by the instrumented program (see, for example, FIG. 2A, items 210, 220 and 240, and related text).

wherein the translated data is configured to satisfy an instrumentation request from a user (see, for example, column 9, lines 25-36).

Edwards teaches performing a function of a debugging program (see, for example, column 12, TABLE 2, which shows a "DbgPrint()" function that returns debugging information), but does not explicitly describe that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program.

However, in an analogous art, Hundt teaches an instrumentation request that is a request to perform a function of a debugging program (see, for example, step 112 in FIG. 1 and paragraph [0034]). Hundt describes that combining an instrumentor with a debugger enhances the functionality and efficiency of both (see, for example, paragraph [0011]).

One of ordinary skill in the art could, with predictable results, implement the teachings of Edwards such that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program. As Hundt suggests, such an implementation would provide enhanced functionality and efficiency. Thus, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Edwards such that the instrumentation request is a request to perform a function of one of a group consisting of a tracing program and a debugging program.

With respect to claim 18 (original), the rejection of claim 17 is incorporated, and Edwards in view of Hundt further teaches that the translator is defined using a high-level programming language (see, for example, column 1, lines 35- 49).

With respect to claim 19 (original), the rejection of claim 17 is incorporated, and Edwards in view of Hundt further teaches that the translator is updated independently of the execution framework (see, for example, column 13, lines 10-24).

With respect to claim 20 (original), the rejection of claim 17 is incorporated, and Edwards in view of Hundt further teaches software instructions to deliver the translator using an encoded delivery (see, for example, FIG. 2A, item 210, "input translation," and related text).

With respect to claim 21 (original), the rejection of claim 17 is incorporated, and Edwards in view of Hundt further teaches software instructions to deliver the translator using a compiled delivery (see, for example, column 12, lines 60-68).

With respect to claim 22 (original), the rejection of claim 17 is incorporated, and Edwards in view of Hundt further teaches software instructions to select the translator using the instrumentation request (see, for example, FIG. 4A, and related text).

With respect to claim 23 (original), the rejection of claim 17 is incorporated, and Edwards in view of Hundt further teaches software instructions to select the translator using knowledge of a function argument type of the instrumented program (see, for example, FIG. 4A, and related text).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Yigdall whose telephone number is 571-272-3707. The examiner can normally be reached on Monday to Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Yigdall
Examiner
Art Unit 2192

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Examiner, Art Unit 2192